

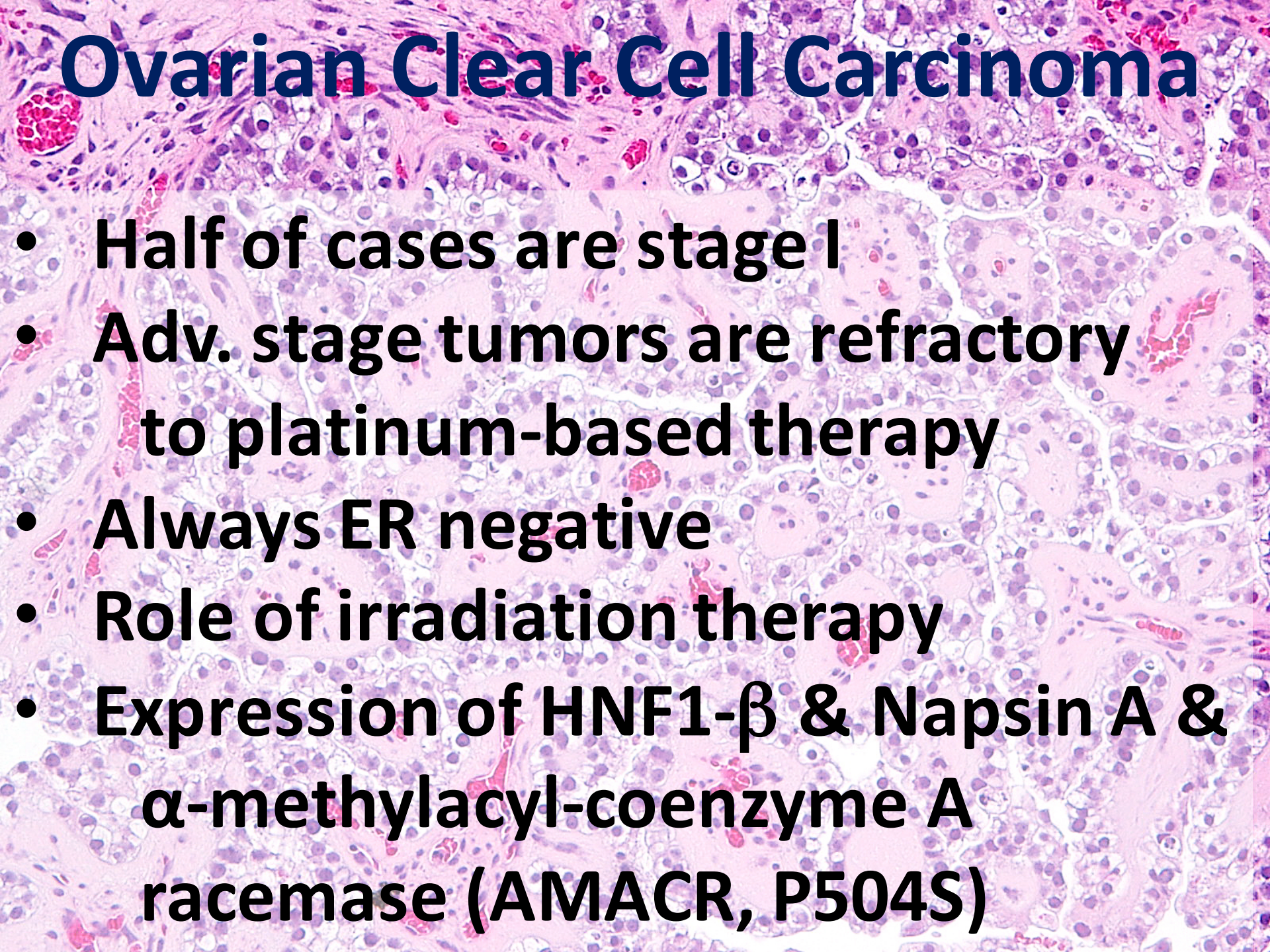
Endometriosis Related Ovarian Neoplasms (ERONs)

- ERONs include three neoplastic diseases frequently associated with ovarian endometrioma.
- Characterized by shared and unique molecular alterations. Several are actionable.
- Mutation in *ARID1A* tumor suppressor is common. Required PI3K/PTEN alterations.
- Understanding their pathogenesis helps outcome prediction and development of better therapy.

Why is important to study ERON?

- Many have well-known precursor stages (endometriosis) which is prevalent in women
- Patients are relatively younger
- Not as well studied as in HGSC
- OCCC is resistant to carbo/taxol
- Actionable genes and pathways (?)

Ovarian Clear Cell Carcinoma



- Half of cases are stage I
- Adv. stage tumors are refractory to platinum-based therapy
- Always ER negative
- Role of irradiation therapy
- Expression of HNF1- β & Napsin A & α -methylacyl-coenzyme A racemase (AMACR, P504S)

Endometrioid Carcinoma



- **Most are stage I**
- **Always ER positive and low-grade**
- **Morphologically & molecularly similar to uterine endometrioid CA**
- **Not unusually to have synchronous uterine endometrioid CA**

Seromucinous carcinoma

A histological slide showing seromucinous carcinoma. The image displays a complex arrangement of glandular structures, including tubules and nests, lined by a mixture of epithelial cells. The glands are filled with mucin, which appears as pale, eosinophilic material. The surrounding stroma is dense and contains numerous inflammatory cells, including lymphocytes and plasma cells, indicating an inflammatory microenvironment. The overall architecture is highly cellular and disorganized, characteristic of a malignant neoplasm.

- **Uncommon ovarian cancer**
- **Arise from seromucinous
borderline tumor**
- **Mixed epithelial types**
- **Inflammatory microenvironment**

Questions to be addressed:

- Molecular landscape of endometriosis.
- Molecular decisions in developing CCC vs. EMC.
- Ovarian microenvironment and ERON pathogenesis.
- The translational roles of *ARID1A* mutations.
- Identifying endometriomas with increased risk.
- Clinical studies to demonstrate the efficacy of targeted therapy.
- Immune checkpoint inhibitors in ERONs with MMR deficiency.